

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: LONG POND	Lake Area (ha): 11.45
Town: MANCHESTER	Maximum depth (m): 4.6
County: Hillsborough	Mean depth (m): 2.4
River Basin: Merrimack	Volume (m ³): 272000
Latitude: 42°57'13" N	Relative depth: 1.2
Longitude: 71°22'55" W	Shore configuration: 1.50
Elevation (ft): 255	Areal water load (m/yr): 4.89
Shore length (m): 1800	Flushing rate (yr ⁻¹): 2.10
Watershed area (ha): 119.1	P retention coeff.: 0.66
% watershed ponded: 0.0	Lake type: natural w/dam

BIOLOGICAL:

		17 February 1998	14 August 1997
DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 35%	ASTERIONELLA 45%
	#2	UROGLENOPSIS 35%	MERISMOPEDIA 30%
	#3	ASTERIONELLA 20%	
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			19.81
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 36%	GASTROPUS 11%
	#2	LRG RND CILIATE SPP 33%	DAPHNIA 11%
	#3		
ROTIFERS/LITER		153	62
MICROCRUSTACEA/LITER		32	40
ZOOPLANKTON ABUNDANCE (#/L)		335	116
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			1.3
BOTTOM DISSOLVED OXYGEN (mg/L)		5.1	0.6
BACTERIA (E. coli, #/100 ml)	#1		2
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.6
Hypolimnion volume (m³): None
Anoxic volume (m³): 43500

CHEMICAL:

Lake: LONG POND
Town: MANCHESTER

	17 February 1998		14 August 1997		
DEPTH (m)	1.5	3.0	1.0		3.0
pH (units)	5.6	5.6	6.4		5.9
A.N.C. (Alkalinity)	3.2	3.5	3.4		5.0
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.40	0.40	0.60		0.60
TOTAL PHOSPHORUS	0.015	0.014	0.014		0.015
CONDUCTIVITY (μ mhos/cm)	41.1	41.1	29.6		33.1
APPARENT COLOR (cpu)	90	90	85		140
MAGNESIUM			0.54		
CALCIUM			2.6		
SODIUM			1.9		
POTASSIUM			0.22		
CHLORIDE	2	2	2		2
SULFATE	8	8	5		4
TN : TP	27	29	43		40
CALCITE SATURATION INDEX			4.0		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1997

D.O. S.D. PLANT CHL TOTAL CLASS

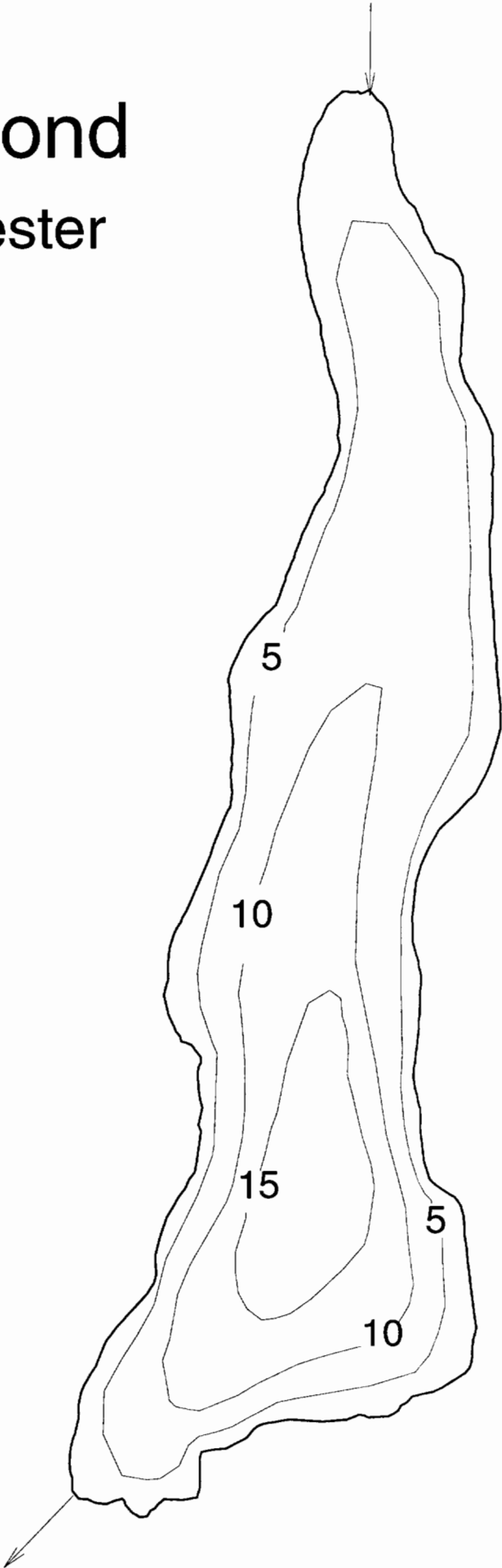
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COMMENTS:

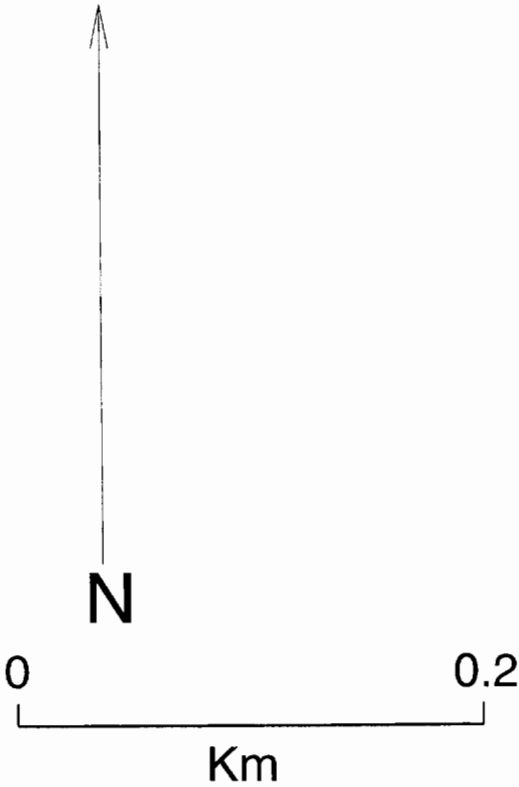
1. Long Pond was previously surveyed in 1981 and was classified as eutrophic at that time also. There was little change in water quality between the two dates except for the summer surface pH which was only 5.8 in 1981.
2. This is a productive, dark tea-colored, moderately acidic pond.
3. Camp Carpenter, a Boy Scout Camp, was located on the pond. No other cottages were present.
4. No water was flowing out the outlet at the time of the summer sampling.

Long Pond

Manchester



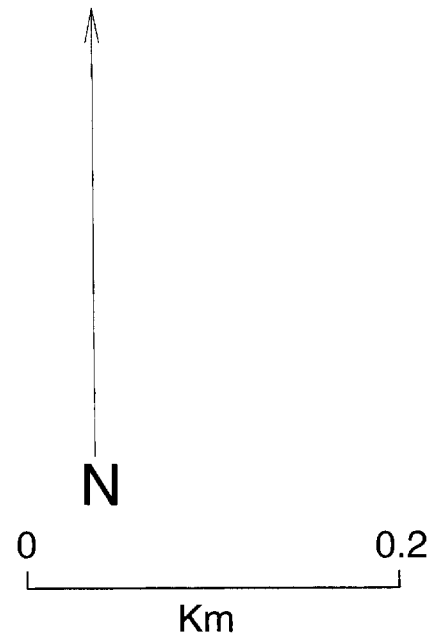
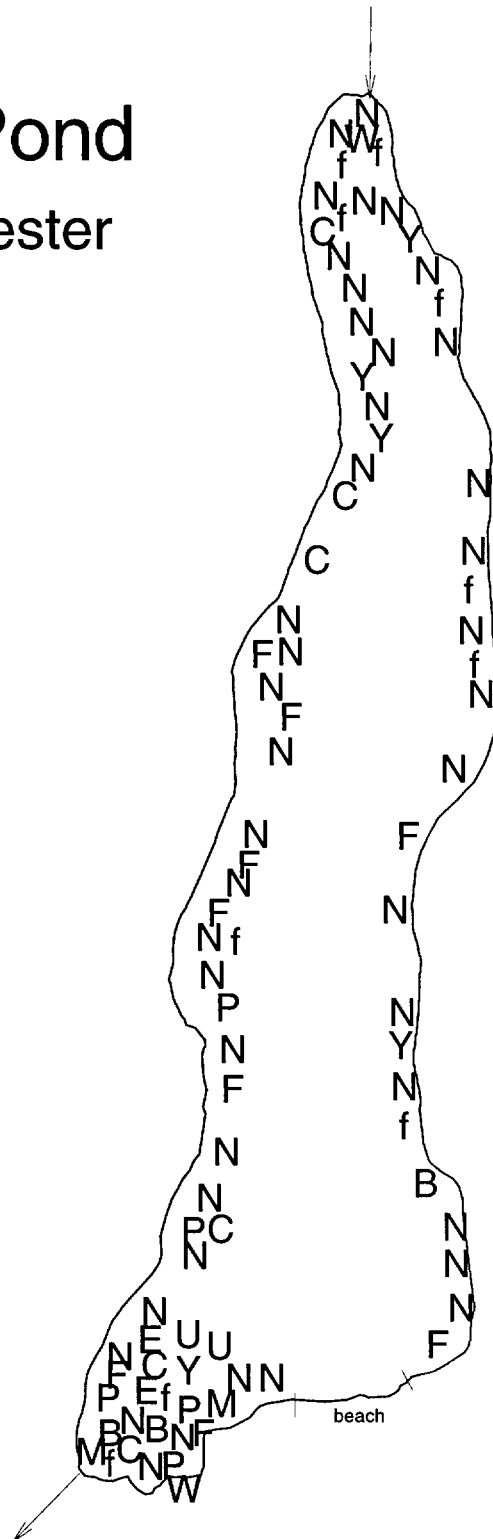
5 foot depth contours



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Long Pond

Manchester



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